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A STUDY ON THE EFFECTS OF YOGA THERAPY ON ANXIETY AND STRESS AMONG JUVENILE BOYS RESIDING IN JUVENILE HOMES

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Abstract: This paper aimed to determine whether a structured yoga therapy program may help reduce anxiety and stress among juvenile boys. Living in a juvenile home, dealing with problematic relationships, dealing with uncertainty, and being in a socially limited environment can all take a mental toll on juvenile offenders. To this end, yoga-based activities may offer a helpful supplementary strategy for fostering emotional stability and mental health. Twenty juvenile boys ranging in age from thirteen to seventeen, were chosen for the study by means of purposive sampling. An organised yoga treatment program was provided to all participants for eight weeks. The program met five days a week for around 60 minutes per session. Drs. Vijaya Lakshmi and Shruti Narayan's 40-item Stress Scale was utilised to measure stress, while a standardised anxiety scale was employed to measure anxiety. Frequency, percentage, mean, standard deviation, and a paired-samples t-test were used to assess the pre- and post-test data at a significance level of 0.05. Participating boys showed considerable reductions in stress and anxiety after completing the structured yoga treatment program. The study emphasises the possible benefits of yoga as a supplementary intervention to enhance mental health in institutional settings for juveniles.

Keywords: Yoga Therapy, Juvenile Boys, Stress, Anxiety, Pranayama, Juvenile Justice.

I. INTRODUCTION

The world unfortunately contains juvenile criminality. Adolescents often struggle with this since they are still developing their sense of self and making poor decisions in response to complex social and personal challenges. There is no other time in a person's life when their vulnerability to making hasty decisions and engaging in risky activities is more apparent than during adolescence. According to the National Crime Records Bureau (NCRB) data, the teen crime rate in India fell 30% between 2013 and 2022. The headlines of newspapers and news programs still feature stories on teenage crime. With 30,555 documented instances in 2022, India's adolescent crime statistics are alarmingly high. Many incidents are reflected throughout India, in addition to the data. In July 2024, a tragic occurrence occurred in Sivsagar, Assam, where a 16-year-old kid died in the school after a chemistry teacher was savagely stabbed with a knife.

Pune, India was the site of yet another incident. A hit-and-run case involving a drunken 17-year-old teenager who killed two people in Pune in May 2024 surfaced. The boy was driving a luxury car at high speed on the road. There are many more cases like these that go unreported in the media; these two are just two examples from India and around the world. According to the Child Crime Prevention & Safety Centre (n.d.), these young people commit a wide range of crimes, including shoplifting, armed robbery, assault, property crimes, fraud, harassment, and drug and alcohol offences. To add insult to injury, the top ten offences under the

Indian Penal Code (IPC) by 2022 include riots, assaults on women, rash driving, burglary, robbery, rape, kidnapping, and commit murder.

Researchers are paying a lot of attention to the issue of adolescent delinquency. A person's criminal behaviour can be understood because of their social surroundings, their personal development, and the ways in which these factors interact with one another (Wikström, 2006). According to situational action theory, criminal behaviour is only a poor moral decision that is contextually specific to everyone. Crime is impacted by moral decision-making, self-restraint, and external forces. Adolescents' ability to self-regulate is seen to be a personal component that influences their criminal behaviour. However, according to the general theory of crime, self-control is something that may be taught through watching other people. Because of the close relationship between a kid and their parents, the family and parents take center stage in this condition. Inadequate parenting practices can expose children to risk-taking behaviours and contribute to their lack of self-control. The likelihood of falling into delinquent behaviour is inversely proportional to the level of self-control a teenager exhibits; conversely, a higher level of self-control predicts a larger likelihood of engaging in delinquent behaviour.

Yoga and Juvenile Delinquency

The term "juvenile delinquency" refers to the repeated disruptive behaviours of individuals under the age of 18 that can cause harm to others, damage to property, violations of moral values, and acts of defiance. Such behaviours are indicative of serious mental health issues that need to be identified and treated promptly. Hormonal changes, including pubescence, begin around the age of eight, and children have a lot of physiological changes, like the development of their immune system and alveoli, that can be difficult for them to manage and even cause mental illness and emotional instability. Mood disorders, personality disorders, and behaviour disorders are among the serious mental health conditions that juvenile offenders often suffer from. Research has shown that the physical postures, breathing exercises, and mindfulness-based practices that make up yoga can have a positive effect on one's mental and physical health.

Yoga has a positive effect on stress and self-regulation in juvenile detention centers, and a mindfulness-based intervention can help with cognitive behavioural approaches like anger management and impulsive control. Instilling moral principles and empathy through the Yama-Niyama practice at a young age helps with emotional management by decreasing attachment and anger. Incorporating mindfulness-based practices into one's daily life can lead to lasting happiness and improved mental health. Asanas and Pranayama energise the neuromuscular system, alter intra-thoracic and intra-abdominal pressure, which in turn benefits one's respiratory and cardiovascular systems. Yoga teaches teenagers that there is a healthy approach to handle stressful situations, regardless of their biological, cultural, or social backgrounds. Young people nowadays face a learning process that can be fraught with stress, worry, and despair; they also face unhealthy levels of competition, which can cause social anxiety, peer pressure, and school phobia. Premature pubescence, characterised by an imbalance between the neurological system and hormonal secretions, is a leading cause of psychiatric disorders in children. This condition might be associated with parental rejection, family suppression, or social pressure. Problems with behaviour, mood, or personality, as well as the development of recidivistic behaviour, can result from a lack of adjustment to any form of mental pressure. They can begin to balance their cerebral and vital energy, lessen their psycho-emotional anguish, and bring about inner serenity by engaging in a few basic practices beginning at the age of eight. One of the most significant practices, Surya Namaskara stretches the musculoskeletal system. Muscle coordination and the autonomous nervous system's efficiency are both enhanced by static stretches. In doing so, it aids in reviving the entire system and keeping the body, mind, and surroundings in harmony.

II. REVIEW OF EXISTING STUDIES

Himadri Borah & Prof. Sima Pal (2025) Globally, and in India specifically, juvenile delinquency is on the rise. Researchers used a quasi-experimental design to look at how yoga affected the levels of aggression and self-control in adolescent offenders. Aggression and self-control were also highlighted in the study. Both the experimental and control groups consisted of sixty-six juvenile offenders. A four-week yoga module was given to the treatment group as an intervention. The program includes physical activities, breath control, and meditation. The results showed that compared to the control group, the treatment group was more controlled and had less aggressive behaviour. In addition, once the yoga program was implemented with the juvenile delinquents, the correlation between aggression and lack of self-control grew weaker.

Sharma, Anita et al., (2024). To test the influence of Yogic practices on the sub-variables of aggression, including attack, irritation, and verbal aggression, this research used an ANOVA with repeated measures of the order of $2 \times 2 \times (2)$. To normalise violence, this study employed a comprehensive set of yogic practices. One hundred students, fifty boys and fifty girls, ranging in age from fourteen to seventeen, from the Shimla district in Himachal Pradesh, made up the sample. Here are the main takeaways: 1) Significant main effects at the .05 and .01 levels were observed for group, gender, and treatment; 2) Substantial F ratios were also produced by treatment $\times$ group and treatment $\times$ gender interaction effects, highlighting the significance of interventions in reducing aggression apart from gender differences in relation to treatment.

Kumar, Bharat et al., (2024). A more balanced state of mind and body is one of the primary goals of yoga, which in turn improves health, confidence, and conduct. Consequently, anxiety and despair can be alleviated by yoga therapy. Yoga, an important part of Indian heritage, may help teens deal with worry.

Khunti, Kirti et al., (2022). Mental health issues in children and teenagers are on the rise, and frontline doctors are seeing more of these cases. The prevalence of mental health problems has grown over the last decade, making them the top cause of disability and a £105 billion yearly drain on the British economy. This review presents the findings of 21 studies that examine the effects of yoga on children's mental health and explores the evidence foundation supporting these effects. From 2008 to May 2022, Ovid examined the following databases: PsycINFO, ERIC, Web of Science, PubMed, Medline, and the Cochrane Library. The search terms "yoga" and "mindfulness" along with "school," "children," "youth," and "teenager" were utilised. Research conducted in English was the only one considered. The Cochrane risk-of-bias tool for randomised control trials, Version 2, along with a set of inclusion and exclusion criteria, was used to grade the quality of each study. Despite methodological issues such as small sample sizes and a lack of information on interventions, the evidence for yoga therapies in children is promising. The potential benefits of yoga interventions for mental health prevention and treatment in educational settings have been brought to light in this review.

Ashtaputre, Aparna. (2015). Many college students deal with worry and stress on a daily basis. As a discipline that has persisted for generations in India, yoga has the potential to help alleviate anxiety. The purpose of this research is to quantify the impact of a yogic intervention on college students' anxiety levels. At an intercollegiate college in Aurangabad, a pre- and post-test was administered. Fifty students were chosen at random to participate in the Yogic intervention, which involved thirty minutes of daily yoga practice for forty-five days. The individuals' anxiety levels dropped significantly, according to the statistics. The results showed that yogic intervention decreased the subjects' levels of academic anxiety, which is a significant finding because anxiety is a big problem among today's youth.

III. METHODOLOGY OF THE STUDY

Research Design

The purpose of this study was to determine whether a structured yoga therapy program could alleviate anxiety and tension in adolescent boys using a one-group pre- and post-test experimental design.

Sample and Sampling Technique

Using a purposive sampling technique, 20 juvenile boys were chosen for the research. All participants had to meet certain criteria before they could be considered, including being available during the intervention and being willing to take part. The yoga therapy intervention was administered to each of them. In this investigation, a separate control group was not utilised.

Yoga Therapy Intervention

An organised yoga therapy program was administered to the 20 participants for a duration of 8 weeks. The lessons lasted about 60 minutes and happened five times a week.

The following activities were a part of the yoga treatment program:

- Yoga positions: Surya Namaskar, Bhujangasana, Vajrasana, and Virabhadrasana.
- Anulom-Vilom and Bhramari are two pranayamas.
- Shavasana, A Pose for Deep Relaxation.
- Meditation: Relaxation techniques and guided meditations.

A state of mental and physical health, as well as improved focus, self-control, and emotional regulation, were the intended outcomes of the intervention. The purpose of this study was to assist participants in better managing stress and anxiety by regular practice of yoga postures, breathing exercises, relaxation, and meditation.

Research Tools

The study used standardised psychological tools to assess the selected variables.

1. Stress Scale by Dr. Vijaya Lakshmi and Dr. Shruti Narayan

The stress levels of the participating teenage boys were measured using the Stress Scale, which was created by Drs. Vijaya Lakshmi and Shruti Narayan. The forty-item scale assessed many aspects of stress.

Participants' stress levels were measured using this scale both before and after they participated in the yoga therapy program.

2. Anxiety Scale

The anxiety levels of the young boys were measured using a standardised anxiety scale. To measure how much of an impact yoga therapy had on participants' anxiety levels, the scale was given before and after the session.

3. Personal Information Schedule

The participants' ages and other pertinent background information, as well as any other relevant study characteristics, were gathered using a standardised Personal Information Schedule.

Statistical Analysis

Twenty participants' data was coded and examined using suitable statistical methods. Relevant participant characteristics were described using percentages and frequencies, and the pre- and post-test results were summarised using means and standard deviations. Using a paired-samples t-test to compare the pre- and post-test scores of the same individuals, we were able to establish the yoga treatment program's effectiveness. Anxiety and stress levels were compared independently. The significance threshold was set at 0.05. If there is a statistically significant change in the specified psychological variables following the yoga therapy session, it would be indicated by a difference between the pre-test and post-test scores.

IV. RESULTS OF THE STUDY

Table 1 Age-wise Distribution of Participants (N = 20)

Age Group	Frequency	Percentage
13–14 years	7	35
15–16 years	8	40
17 years	5	25
Total	20	100

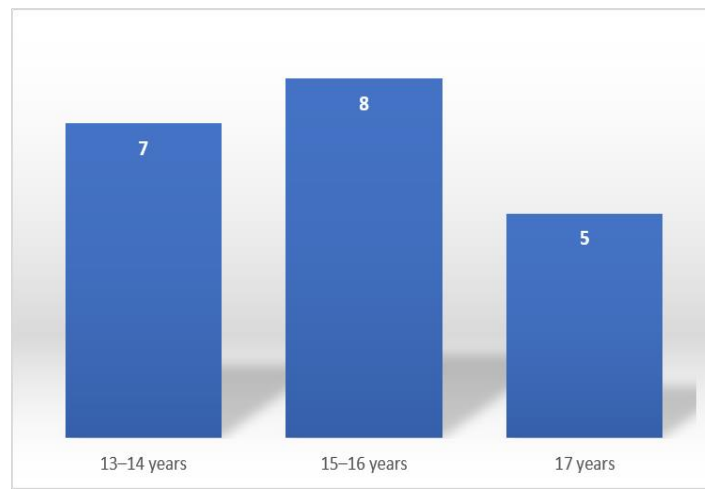


Figure 1 Age-wise Distribution of Participants (N = 20)

The age distribution of the 20 participants is shown in Table 1. The results show that the age group of 15–16 years old accounts for the most proportion of participants (8 people, or 40%), followed by the age group of 13–14 years old with 7 people, or 35%. Participants' ages range from 17 to 25, with 5 being the youngest. Table 1 shows that the bulk of the participants were between the ages of 15 and 16, with the smallest proportion of the sample being 17 years old. The ages of the contestants ranged from thirteen to seventeen years old.

Pre-Test and Post-Test Stress Scores

Table 2 Comparison of Mean Pre-Test and Post-Test Stress Scores (N = 20)

Stress Measure	Pre-Test Mean	Pre-Test SD	Post-Test Mean	Post-Test SD	Mean Difference
Stress	27.85	4.21	21.40	3.76	6.45

Twenty individuals' mean stress scores were compared before and after the intervention in Table 2. After the exam, the average stress level dropped from 27.85 (SD = 4.21) to 21.40 (SD = 3.76). With a mean difference of 6.45 points, stress levels were significantly reduced after the intervention. Slightly reduced variance in participants' stress scores following the intervention is suggested by the fall in standard deviation from 4.21 to 3.76. The results show that the intervention helped the participants feel less stressed overall (Table 2).

Pre-Test and Post-Test Anxiety Scores

Table 3 Comparison of Mean Pre-Test and Post-Test Anxiety Scores (N = 20)

Anxiety Measure	Pre-Test Mean	Pre-Test SD	Post-Test Mean	Post-Test SD	Mean Difference
Anxiety	26.90	4.58	20.75	3.92	6.15

The average anxiety levels of the 20 individuals were compared before and after the intervention in Table 3. Anxiety levels dropped from 26.90 (SD=4.58) before the exam to 20.75 (SD=3.92) thereafter. Anxiety levels dropped significantly after the session, as shown by the 6.15 point mean difference. After the intervention, there was a small decrease in variation among participants' anxiety levels, as seen by the drop in standard deviation from 4.58 to 3.92. All things considered, the results shown in Table 3 show that the intervention helped the individuals feel less anxious.

Classification of Stress Levels

Table 4 Distribution of Participants According to Stress Level Before and After Yoga Therapy

Stress Level	Pre-Test n (%)	Post-Test n (%)
Low	3 (15.0)	8 (40.0)
Moderate	9 (45.0)	9 (45.0)
High	8 (40.0)	3 (15.0)
Total	20 (100.0)	20 (100.0)

Twenty participants were distributed according to their pre- and post-yoga stress levels, as shown in Table 4. According to the pre-test results, 3 people (15.0%) reported low stress, 9 people (45.0%) reported

moderate stress, and 8 people (40.0%) reported high stress. The percentage of individuals reporting low stress rose from 15% to 40% after yoga therapy, whereas the percentage reporting severe stress fell from 40% to 15%. At 45.0%, the percentage of those experiencing considerable stress stayed the same. Therefore, according to Table 4, there was a marked improvement in participants' stress levels following yoga therapy, as more of them fell into the low-stress category and fewer stayed in the high-stress one.

Classification of Anxiety Levels

Table 5 Distribution of Participants According to Anxiety Level Before and After Yoga Therapy

Anxiety Level	Pre-Test n (%)	Post-Test n (%)
Low	4 (20.0)	9 (45.0)
Moderate	8 (40.0)	8 (40.0)
High	8 (40.0)	3 (15.0)
Total	20 (100.0)	20 (100.0)

Table 5 shows the breakdown of the 20 subjects based on their pre- and post-yoga anxiety levels. Four people (20.0%) reported low anxiety, eight people (40.0%) moderate anxiety, and eight people (40.0%) high anxiety in the pre-test. Participants' anxiety levels dropped from 40 percent to 15 percent after yoga therapy, and the percentage of people reporting low anxiety levels rose from 20 percent to 45 percent. The proportion of individuals experiencing considerable anxiety stayed steady at 40.0%. Therefore, as shown in Table 5, there was a marked improvement in participants' anxiety levels after yoga therapy, with fewer people reporting high levels of anxiety and more people reporting low levels.

Table 6 Paired Samples t-Test for Pre-Test and Post-Test Stress Scores

Variable	Mean pre-test	Mean post-test	Mean Difference	SD of Difference	t-value	df	p-value
Stress	27.85	21.40	6.45	3.72	7.76	19	<0.001

The results of the paired samples t-test comparing the 20 participants' pre- and post-test stress scores are presented in Table 6. There was a 6.45-point decrease in the mean stress score from 27.85 on the pretest to 21.40 on the post-test. With 19 degrees of freedom, the computed t-value was 7.76, and the outcome was statistically significant ($p < 0.001$). This proves that the drop in stress levels following yoga treatment was not an accident and was rather statistically significant.

Table 7 Paired Samples t-Test for Pre-Test and Post-Test Anxiety Scores

Variable	Mean pre-test	Mean post-test	Mean Difference	SD of Difference	t-value	df	p-value
Anxiety	26.90	20.75	6.15	3.48	7.91	19	<0.001

The paired samples t-test comparing the 20 individuals' pre- and post-test anxiety scores is shown in Table 7. On average, participants' anxiety levels dropped 6.15 points between the pre- and post-tests, from 26.90 to 20.75. With 19 degrees of freedom, the computed t-value was 7.91, and the outcome was statistically significant ($p < 0.001$). Reduced anxiety levels after yoga treatment were probably not coincidental, given the statistical significance of the effect.

V. CONCLUSION

The purpose of this research was to find out whether an organised yoga therapy program could help adolescent boys deal with their anxiety and tension. Twenty young men, ranging in age from thirteen to seventeen, were chosen at random from a pool of potential participants using a purposive sampling technique. The research consisted of a pre- and post-test experimental design. An eight-week yoga therapy program including specific asanas, breathing exercises, relaxation techniques, and meditation was administered to all participants. Each session of the intervention lasted about 60 minutes and took place five days a week.

The results showed that the participants' mental health significantly improved after the session. After the intervention, the average stress score dropped from 27.85 on the pretest to 21.40 on the post-test, a 6.45-point drop. The results of the paired-samples t-test ($t(19) = 7.76, p < 0.001$) showed that this decrease was statistically significant. Participants reported much less stress after completing the eight-week yoga therapy program, according to the data. When it came to anxiousness, a comparable trend emerged. Following the intervention, the average anxiety score dropped from 26.90 to 20.75, a 6.15-point decrease. This difference

was found to be statistically significant according to the paired-samples t-test, with a t-value of 7.91 and a p-value less than 0.001. Therefore, the results show that the anxiety levels significantly decreased after the structured yoga therapy program.

The yoga therapy program's synergistic effects may explain the good results. Anulom-Vilom and Bhramari are two examples of pranayama practices that offered regulated breathing and chances to calm the mind, while the chosen Yog asanas may have encouraged physical relaxation and body awareness. Shavasana helped with both mental and physical relaxation, while guided meditation aided with focus, self-awareness, and peace of mind. Participant development of more constructive responses to stress and emotional challenges may have resulted from the consistent and methodical application of these components.

The current results offer promising data about the benefits of systematic yoga treatment for adolescent boys, despite these limitations. Regular practice of yogasanas, pranayama, relaxation, and meditation were linked to genuine psychological change, as seen by the statistically significant reductions in both anxiety and stress. According to the results, structured yoga therapy could be an effective supplementary intervention for improving the mental health and emotional stability of adolescent boys residing in correctional facilities.

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